A Study to Assess the Prevalence of Hypertension and Risk Factors among Adults Residing in Nij-Sindurighopa Village, Kamrup, Assam

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Abstract: *Background of the study: Hypertension is a major public health problem due to its high prevalence all around the globe. The overall prevalence of hypertension in India is 29.8% and 26% worldwide. The objective of the study: To assess the prevalence of hypertension and find out the risk factors of hypertension among adults residing in Nij-Sindurighopa village, Kamrup, Assam. Material and method: A non-experimental quantitative research approach was adopted with sample of 92 adults above 19 years of age, residing in Nij-Sindurighopa village, Kamrup, Assam using multistage sampling technique. Result: The study concludes that the prevalence of hypertension was 1.47% and majority 58.7% of the participants were under low risk of hypertension. Conclusion: The prevalence and risk factorsof hypertension in Nij-Sindurighopa village, Kamrup, Assam was low.*

Keywords: Assess, Hypertension, Risk factor, Prevalence, Adults

1. Introduction

Hypertension is a major public health problem due to its high prevalence all around the globe.[1] Hypertension is used to assess the risk factors for various chronic heart disease, stroke and coronary artery disease. Hypertension often accompanies other risk factors for atherosclerosis heart disease, such as dyslipidemia, obesity, diabetes mellitus, metabolic syndrome, and a sedentary lifestyle. Prolong blood pressure elevation eventually damages blood vessels throughout the body, particularly in target organs such as the heart, kidney, brain and eyes. The consequences of prolonged and uncontrolled hypertension can lead to myocardial infarction (MI), heart failure, renal failure, stroke and impaired vision.[1, 2]

According to the Joint National Committee7, normal blood pressure is a systolic blood pressure less than 120 mmHg and diastolic blood pressure is less than 80 mmHg. Hypertension is defined as systolic blood pressure level of more than or equal to 140 mmHg and diastolic blood pressure level more than or equal to 90 mmHg. The grey area falling between 120 – 130 mmHg, systolic blood pressure and 80 – 89 mmHg, diastolic blood pressure is defined as pre hypertension.[1]

Globally an estimated 26% of the world population are hypertensive and the prevalence is expected to increase to 29% by 2025, driven largely by increase in economically developing nations.[3] Overall prevalence for hypertension on 2014 in India was 29.8%. A significant difference in hypertension prevalence was noted between rural parts (27.6%) and urban parts (33.8%).[4] In Assam, the overall prevalence of hypertension on 2003 was 63.63%.[5]

Objectives of the study
1) To assess the prevalence of hypertension among adults residing in Nij-Sindurighopa village, Kamrup, Assam.

2) To find out the risk factors of hypertension among adults residing in Nij-Sindurighopa village, Kamrup, Assam.

2. Review of Literature

Section A: review of literature related to prevalence of hypertension.
Hazarika NC, Narain K, Biswas D, Kalita HC, Mahanta J (2003) conducted a study on hypertension in the native rural population of Assam. The researcher has found that the overall prevalence of hypertension was 33.3%.[6]

Section B: review of literature related to risk factors and hypertension among adolescence.
Banerjee S, Deshmukh P (2021) conducted a cross sectional study on hypertension and its determinants among school going adolescents in urban slums of Nagpur city, Maharashtra. The study findings reveal that 10.6% were hypertensive and 12.9% were pre hypertensive.[7]

Section C: review of literature related to prevalence and associated risk factor of hypertension.
Kurjogi M M, Vanti L G, Kaulgud S R (2019) conducted a study on prevalence of hypertension and its associated risk factors in Dharwad population. The study revealed that the prevalence of hypertension was higher in alcohol-intake, tobacco-smoking/ chewing participants and sedentary life style is also one of significant risk factor for hypertension. Overall increased rate of hypertension poses a biggest challenge for health sector in Dharwad district.[8]

3. Research Methodology

Research approach: Quantitative research approach.

Research design: Community based cross sectional research design.

Study setting: Nij Sindurighopa village, Kamrup, Assam.

Demographic variables: Age, gender, religion, educational qualification, occupation, income, chronic illness, medication, stress, family history, exercise, food habit, use of alcohol, knowledge of hypertension.

Research variables: Prevalence of hypertension and risk factors of hypertension.

Target population: Adults above 19 years of age residing in Kamrup, Assam

Accessible population: Adults above 19 years of age residing in Nij Sindurighopa village, Kamrup, Assam.

Sampling technique: Multi stage sampling technique.

Sample and sample size: 92 rural adults.

Selection of the tools:
1) Manual blood pressure apparatus and stethoscope
2) Socio demographic proforma consisting of 15 items
3) Modified WHO stepwise approach to chronic disease risk factors surveillance (STEPS) checklist

4. Data Analysis and Interpretation

Section A: Frequency and percentage distribution of demographic variables

Table 1 (a): Frequency and percentage distribution according to the age, gender, religion, education and occupation.
n=92

S. No	Variables	Category	Frequency	Percentage (%)
1	Age	20-30 years	14	15.30%
		30-40 years	30	32.60%
		40-50 years	17	18.50%
		50 above	31	33.60%
2	Gender	Male	35	38.04%
		Female	57	61.96%
3	Religion	Hinduism	79	85.87%
		Islam	13	14.13%
4	Education	No formal education	14	15.22%
		Primary school level	20	21.74%
		Middle school level	19	20.65%
		High school level	18	19.57%
		Higher secondary level	12	13.04%
		Graduate and above	9	9.78%
5	Occupation	Student	4	4.35%
		Unemployed	8	8.70%
		Home maker	44	47.87%
		Farmer	6	6.51%
		Industrial worker	10	10.87%
		Private business	17	18.48%
		Government employee	3	3.26%
6	Income	Upper class	3	3.26%
		Upper middle class	4	4.35%
		Middle class	41	44.57%
		Lower middle class	23	25%
		Lower class	21	22.82%

Table 1 (a) shows that majority 32.6% of the participants were 50 years above of age group, 61.96% were female, 85.87% were Hinduism by religion, 21.73% were primary school level, 47.87 % were home maker and 44.57% were from middle class.

Section B: Frequency and percentage distribution of risk factor of hypertension and category of hypertension

Table 2 (a): Frequency and percentage distribution of risk factor of hypertension, n=92

Risk Factor of Hypertension			
Category	Score	Frequency	Percentage (%)
Low	15.8 (Below16)	55	59.8%
Moderate	19.8 (16-20)	35	38.5%
Severe	More Than 19.8 (Above 20)	2	2.8%

Table 2 (a) shows that majority 58.7% of the participants were under low risk factor of hypertension followed by 38.5% were under moderate risk factor of hypertension and 2.8% were under severe risk factor of hypertension.

Table 2 (b): Frequency and percentage distribution according to the category of hypertension, n=92

Category of hypertension	Range		Frequency	Percentage (%)
	Systolic blood pressure (mmHg)	Diastolic blood pressure (mmHg)		
Optimal	<120	<80	22	23.9%
Normal	120-129	80-84	29	31.52%
Normal high	130-139	85-89	14	15.21%
Grade 1 light	140-159	90-99	8	8.70%
Grade 2 moderate	160-179	100-109	0	0%
Grade3 severe	≥180	≥110	0	0%
Systolic hypertension	≥140	<90	0	0%

Table 2 (b) shows that majority 31.52% of the participants was having normal blood pressure, 23.9% were having optimal blood pressure, 15.21% were having normal high blood pressure and 8.70% were having grade 1 light blood pressure. There are no participants who were having grade 2 moderate, grade 3 severe and systolic hypertensions.

Section D: Prevalence of hypertension

Point prevalence of hypertension=

$$\frac{no\ of\ all\ current\ cases\ of\ specified\ disease\ existing\ at\ a\ given\ point\ in\ time}{estimated\ population\ at\ the\ same\ point\ in\ time} \times 100$$

$$= \frac{22}{1493} \times 100$$

=1.47 %

In the present study, the prevalence of hypertension was found to be 1.47%.

5. Discussion

In the present study, the prevalence of hypertension is 1.47. Present study finding is inconsistent with the study conducted by the Hazarika NC, NarainK, BiswasD, Kalita HC, Mahanta Jon hypertension in the native rural population of Assam where the researcher has found that the overall prevalence of hypertension was 33.3%.[5]

Present study finding which is inconsistent with the study conducted by Singh N, Rahman SJ where the researcher found that overall prevalence among the study subject was 23.5%.44.5% of the total participants was in the pre hypertensive stage.[11]

6. Conclusion

This study had been conducted to assess the prevalence of hypertension and risk factors among adults residing in Nij Sindurighopa village, Kamrup, Assam. In the present study, it was found that majority 58.7% of the participants were under low category of risk factor of hypertension. Majority 31.52% of the participants were having normal blood pressure and the prevalence of hypertension is 1.47 %. The assumptions of the study were rejected as the prevalence and risk factors of hypertension was low.

7. Limitation

- The study has focused on prevalence and risk factor of hypertension.
- The study was done only in one village in Kamrup, Assam with 92 samples.

8. Recommendation

- A similar study can be done in different setting with large sample size.
- A comparative study can be done between younger adults and older adults.
- A comparative study can be done between male and female.
- A structured teaching programme study can be done on knowledge regarding hypertension.

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